



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
230 SOUTH DEARBORN ST.  
CHICAGO, ILLINOIS 60604

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**EXPRESS MAIL**

March 15, 1991

REPLY TO ATTENTION OF: 5HS-11

Joe Adams, P.E.  
Warzyn Engineering Inc.  
2100 Corporate Drive  
Addison, Illinois 60101

Re: American Chemical Services NPL Site - FS Task 3 Teleconference  
Points and Comments

Dear Mr. Adams:

This letter is written as a follow-up to the conference call held with you on Friday March 1, 1991 to discuss Chapter 4 of the feasibility study report for the ACS site. The conference was slightly different from previous conference calls, since we mainly discussed our major comments, and at your request, reserved minor comments to those outlined in Attachment 1. Generally, there were two major points which we discussed during the call which need to be integrated into the body of the FS. The first issue concerns the lower aquifer groundwater contamination, and its role in the evaluation of alternatives for the site. The second issue concerns ACS' involvement in the drafting of the document, with particular regard to the discussion of site-related implementability of the various alternatives.

**Lower Aquifer Groundwater**

Although a risk analysis has been performed for the lower aquifer groundwater, the presence of contamination in concentrations outside of the acceptable risk range is not specifically mentioned in the evaluation of alternatives in the FS. Each alternative should describe, except for the *No Action* alternative, the measures which are expected to be taken to control and remediate the contamination in the lower aquifer. For some alternatives, this may simply result in an expansion of the groundwater extraction system and an evaluation of whether the proposed treatment system could effectively treat the chloroethane and 2-butanone contamination in the lower aquifer groundwater. For others such as *Alternative 2* and *Alternative 4* it would require the addition of a groundwater pump and treat system to the existing description. Each alternative, except for the *No Action* alternative, must include some recognition that the lower aquifer groundwater contamination must be addressed. Each alternative should also confirm the need for additional investigative studies to examine the size of the lower aquifer plume, assess when treatment should

begin, and determine the capacity of the treatment system.

### ACS Participation/Implementability Issues

Many of the alternatives discussed in this segment of the FS will include to some degree the dismantling, removal or movement of ACS equipment, or may significantly interfere with ACS' ability to operate their facility. After talking with representatives from ACS, it is apparent that they were not aware of the content of the FS and how it would affect their operation. At the teleconference, I relayed the message that some coordination between ACS and the Steering Committee would be necessary to ensure that ACS was aware of the possible impacts that some of the alternatives would have on their operation. This is to ensure that any access issues between ACS and the steering committee could be exposed during the FS, prior to the onset of the remedial action activities. This coordination is necessary so that each alternative could be assessed by its implementability and weighed against the other criteria enabling EPA to make the best decision for the site. The proper way to document this coordination is in the FS. The implementability section of each alternative should mention that dialogue between ACS personnel and Warzyn has occurred similarly to the documentation of dialogue between the City of Hammond and Warzyn regarding the POTW requirements. This way EPA can be informed of all of the difficulties associated with implementing each alternative.

### Conclusion

As I stated earlier, our remaining concerns are being provided to you in Attachment 1. Since the FS is expected to change somewhat in the expected draft submittal, I have attempted to keep the comments in a more generic flavor. However, comments specific to this document will also be found. I want to remind you that these comments are not to be construed as EPA's formal comments on the FS, but are rather intended to provide direction to you while you are compiling it.

## ATTACHMENT 1

1. Page 4-3, Paragraph 2 - An example calculation should be provided for the determination of the potential minimum soil design concentrations. Preferably, the example calculation would appear at this point in the text, however, an appendix reference would also be acceptable.
2. Page 4-9, Paragraph 2 - The pumping rate for initial dewatering, its duration, and the pumping rate for maintenance of the performance elevation should be included for the case when no slurry wall is placed around the site.
3. Page 4-9, Paragraph 4 - A diagram should be included to explain the conceptual placement scheme for pipe and media drains in lieu of a slurry wall arrangement.
4. Page 4-10, Paragraph 3 - Shouldn't the word "entire" in line 4 be exchanged for the phrase "distinct areas"?
5. Page 4-11, Paragraph 2 - An assessment of the effect site dewatering of the upper aquifer to on-site structures should be addressed in the document. If ACS were to continue operating at this location, the additional costs associated with shoring the existing structures and their foundations would have to be included in the present worth calculations. Also, the effect on ACS property should be assessed in terms of its effect on ACS' operation, and whether ACS would object to these effect during the remedial action.
6. Page 4-11, Paragraph 4 - Iron bacteria may pose a significant problem to system maintenance and operation. Its potential impact should be assessed and addressed in the evaluations.
7. Page 4-12, Paragraph 1 - A comparison of the expected life of a pipe and media drain extraction system, versus that of an extraction well system should be included in this section. This is important, especially in a long term remedy where the replacement and maintenance costs for extraction wells in an extraction well system may exceed the original installation cost of a pipe and media drain system.
8. Page 4-12, Paragraph 2 - The volume of contaminated soils that would have to be disposed is likely to be minimal in this instance since the soils are composed mainly of sand and gravel. These are the type of soils expected to be used in the installation of a underground piping system. The replacement of these contaminated soils back into the trench

from which they were extracted would not be restricted since it is anticipated that no treatment would occur at the surface and thus would not constitute placement and because the soils would be replaced within the area of contamination.

9. Page 4-12, Paragraph 3 - It should be mentioned along with the discussion on the disadvantages of pipe and media drains that workers would likely have to work in level C or B during the placement of the drains.
10. Page 4-12, "Cost" - It is anticipated that two costs, one for a pumping well system and one for a pipe and media drain system would be included in this comparison. The cost comparison should also account for the likely life of each system and the expected replacement costs, if any, of each system.
11. Page 4-14, Paragraph 3 - The volume of discharge to the surface water features should be considered in terms of the effect it would have on the feature. Also, it should be mentioned that the total discharge in the system could be split into various uses (i.e., recharge to the groundwater, wetlands, surface water, etc.).
12. Page 4-15, Paragraph 3 - This section needs to include sufficiently detailed information regarding ACS' position regarding the implementation of this option. For example, is ACS willing to remove tanks from their production line so that this option can be implemented? Can ACS tolerate a complete shutdown of their plant to implement the option all at once, or would sections have to be shutdown and restarted to allow them to continue operating? Can they, or are they willing to allow this kind of intrusion on their property? A quotation or acknowledgement of conversation with an ACS representative similarly to the POTW documentation would be advisable.
13. Page 4-28, Paragraph 2 - Section number "2.2.7.4" should be corrected to read "4.2.7.4".
14. Page 4-30, Paragraph 1 - It should be mentioned that since this site currently lies in an EPA non-attainment area, that the treatment of contaminated air from the air stripper is likely to be required and that secondary treatment of the air will be necessary.
15. Page 4-30, Paragraph 3 - Some discussion needs to be included which will account for the degree of shutdown that would be for the purpose of cleaning the air stripper of biological

debris, etc. which may likely develop during the remediation. How will iron bacteria and other organisms affect the long term effectiveness of the air stripping tower?

16. Page 4-32, Paragraph 4 - It is unclear whether all the soils would have to be replaced with clean fill materials or simply the top soil after incineration.
17. Page 4-35 - The issue of the land disposal restrictions arise in the case of the "land farming" process option. The land disposal regulations covering the conceptual application would be those applicable to waste piles. According to current policy LDRs would not have to met prior to "placement" in a land disposal unit if that unit were within the area of contamination (AOC). It may be difficult to establish the entire ACS facility as an AOC and this possibility should be explored. If the entire ACS facility could not be established as an AOC, then individual "units" on the site would be established. These "units" would include the off-site containment area; the on-site containment area, the still bottoms pond and the treatment pond. According to current policy groundwater contamination underlying "clean" surface soils would not expand the boundary of the AOC.
18. Page 4-38, Section 4.3.2 - Is it assumed that the RCRA multimedia cap would include the options of either an asphalt or concrete cap at various areas on the site?
19. Page 4-39, Paragraph 2 - Compliance with MCLs would necessitate compliance with RCRA. Due to the large amount of contamination which would lie outside of the slurry-walled area a 264.100 corrective action program for groundwater would be necessary since MCLs are likely to be exceeded.
20. Page 4-40, Paragraph 1 - In addition to the other implementability problems mentioned, the problems of physical and administrative implementability with regard to ACS' willingness to allow these activities on their property needs to be discussed here. Accessibility issues should be considered as part of the administrative implementability.
21. Page 4-40, Paragraph 3 - The second sentence needs to be revised to clarify the statement.
22. Page 4-40, Paragraph 4 - See comment 20 above.
23. Page 4-41, Section 4.3.3.1 - It is unclear whether or not this alternative would utilize a slurry wall to facilitate

dewatering. Instead of referencing where the type of extraction system is included in the document briefly describe it, in terms of its reliance on a slurry wall. In this discussion, the referenced section, Section 4.3.2, discusses the use of minimal pumping to cause a slight inward gradient which would not dewater the site. Also, it is unclear whether or not dewatering of the site would continue after the wastes have been removed, or if the site would be allowed to "re-water" and groundwater treatment or gradient control measures established.

24. Page 4-42, Paragraph 2 - It may be appropriate to mention that an incinerator as compared to low temperature thermal treatment may require more extensive testing and evaluation prior to its clearance for full scale use. This may factor in to the time element.
25. Page 4-43, Paragraph 1 - Depending upon the type of dewatering system used, what would be the fate of contaminated groundwater after the wastes are removed? With the use of a slurry wall, the groundwater outside of the slurry wall would be subject to a corrective action program under 264.100 of RCRA. In the case of a dewatering system, without use of a slurry wall, what actions would occur when the buried wastes are successfully treated and the remaining contamination at the site exists in the groundwater and soils? Would the groundwater pump and treat system be expanded to begin full scale treatment of the residual soils and groundwater contamination? These questions need to be answered in the context of the alternative.
26. Page 4-43, Paragraph 4 - Please include what actions if any would be taken to ensure the permanence of the solution for residual soils contamination at the site. Would the site be capped, or would gradient control continue following treatment of the buried wastes? This needs to be included since residual levels are of major significance.
27. Page 4-44, Paragraph 2 - The discussion needs to include how the proposed remedy will effect the reduction of toxicity, mobility or volume for the residual contamination that will exist in the soils and groundwater outside of the waste areas.
28. Page 4-44, Paragraph 4 - To assess the short term exposure risks to the surrounding community and the on-site workers, a simple air dispersion model should be run to determine the range of concentrations that would be experienced from the excavation and stockpiling of heavily contaminated material


prior to it's incineration or other non-in-situ treatments. After the range of concentrations are established, a risk assessment could be performed on the emissions from the treatment.

29. Page 4-44, Paragraph 6 - It should be mentioned in the implementability section that incineration may require more extensive testing and pre-burn evaluation than low-temperature thermal treatment simply because more regulation exists for incineration than for low-temp thermal treatment.
30. Page 4-45, Paragraph 1 - A more comprehensive discussion which concerns ACS' viewpoint with regard to the implementation of this remedy on their business needs to be included here.
31. Page 4-46, Paragraph 1 - Is the referenced time to complete the alternative based upon 4 or 8 units operating simultaneously?
32. Page 4-47, Paragraph 2 - In addition to in-situ treatment of PCBs and metals, excavation and on-site or off-site treatment should also be considered an option for these soils.
33. Page 4-48, Paragraph 3 - It should be mentioned that although many of the semi-volatile and non-volatile compounds would not be amenable to leaching into the groundwater, according to the BRA they may still pose considerable risk to future site residents in the form of contaminated soil contact.
34. Page 4-49, Paragraph 1 - The reference discussing enhanced biodegradation of contaminants during vapor extraction should not be included in the discussion for steam stripping. It is unlikely that biodegradation will occur in a subsurface which is subject to temperatures in excess of 150°F. At this temperature range, it is more likely that the soils will actually be thoroughly sanitized.
35. Page 4-49, Paragraph 4 - Please discuss further how the availability of this technology from a single vendor may affect its actual use at the site.
36. Page 4-51 (Alternative Heading) - The heading "Excavation and On-site Thermal Treatment" should include at its end: "of Buried Wastes".
37. Page 4-51, Paragraph 2 - Please mention whether or not the proposed extraction system would include the use of a slurry-wall.

38. Page 4-51, Paragraph 4 - Figure 4-20 was not available in the document, please include it in the final report.
39. Page 4-52, Paragraph 3 - The placement of a cover to enhance vapor extraction and the likely type of final cover to be placed at the site, should be included in the detailed analysis of the alternative. Especially in terms of need, performance and cost.
40. Page 4-55, Paragraph 3, Final Sentence - Please elaborate on the type of mass transfer constraints that would be experienced and discuss their effect on cost-effectiveness by providing examples.
41. Page 4-56, Paragraph 1 - Although phenols and isophorone are not contaminants of concern with regard to the groundwater, they are contaminants of concern with regard to soils contact in the future site resident risk scenario, at the still bottoms pond and the off-site containment area. Both groups exist in concentrations in excess of the  $10^{-4}$  to  $10^{-6}$  risk range for exposure to future on-site residents to soil.
42. Page 4-59, Paragraph 3 - The type of dewatering system to be employed should be specifically mentioned in the text, i.e., slurry wall or non-slurry wall dewatering system.
43. Page 4-63, Paragraph 1 - The type of dewatering system chosen for this alternative should be named in the text, i.e., slurry wall or non-slurry wall system.
44. Page 4-64, Paragraph 3 - In order to comply with the LDR ARARs, pre-treatment would be required of the wastes prior to placement into the landfarm unit. However, if the treatment unit were to lie within the confines of the AOC, LDRs would not apply to the treatment unit. The compliance with ARARs section, should mention whether or not the location for the treatment unit will lie within the confines of the AOC.
45. Page 4-66, Paragraph 4 - If the unit were to lie outside of the AOC, the groundwater monitoring requirements for a waste pile may have to be waived unless it was proposed that the unit would lie overtop of "clean" groundwater. This should be mentioned in the revised FS.

Please, if you have any questions do not hesitate to call me at  
(312) 886-5116.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Robert E. Swale', written in a cursive style.

Robert E. Swale  
Remedial Project Manager

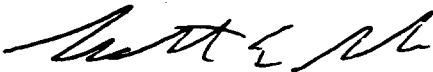
cc: Andy Perellis, Esquire  
Maureen Grimmer, Esquire

### **Revised Schedule**

Based upon the discussions that we had, it is apparent that the content of the FS report will change significantly after our comments from past teleconferences are incorporated with those expressed during the meeting. In light of this, we concur with your request for additional time to complete the draft FS Report. At the meeting, it was agreed that you will have until COB April 19, 1991 to submit the report to U.S. EPA. However, since April 19, falls on a friday, it is unlikely that I will transmit copies of the document to the list of reviewers on that day. Consequently, I am extending the due date, in a show of good will, until 12:00 PM, April 22, 1991. This will give you an extra weekend to complete the document. No extensions to this date will be accepted.

In closing, I look forward to receiving the full FS report. If you have any questions, please do not hesitate to call me at (312) 886-5116.

Sincerely,



Robert E. Swale  
Remedial Project Manager

cc: Steve Siegel, ORC